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ON

THE PRESENT SYSTEM

OF

MEDICAL EDUCATION IN ENGLAND.

BY

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However ill the present system of Medical Study may be found to have worked for the education of students in North Britain, its influence to my knowledge has not been so much found fault with in the London Schools. The subject of education being, however, thrown open for consideration, I think it right, in my individual capacity, to offer some observations upon the suggestions which have been made for modifying the curriculum of study at present required by various examining bodies. I shall be pardoned, I am sure, for intruding my views on this subject, when I plead as my excuse the experience which it is my privilege to have gained from my connection with the school of St. Bartholomew's Hospital, and the interest which I naturally take in a question of such importance to the profession.

It is my opinion that little, if any, change in the existing regulations is at present desirable. I ground this opinion upon the facts of the case, and upon observation of school work daily passing under my notice.

The regulations at present enforced by the English corporations work as follows: each pupil before entering at a school of medicine (I purposely omit all notice of Medical Education preliminary to that of the Schools) is obliged to have passed some one of the examinations on the subjects of General Education as required by the Medical Council. Having advanced thus far, he is qualified to present himself for registration at the Colleges of Physicians and Surgeons, and at the Apothecaries' Hall, for, having succeeded in the preliminary examination on subjects of General Education at any one of these, he is exempt from those of the remaining two. Whilst these corporations, however, recognise as sufficient, the passing of any one of the preliminary examinations sanctioned by the Medical Council, the English universities still require a student to matriculate, or to pass either certain examinations in Arts, or the Previous Examination; at present, therefore, students in England, from the beginning of their medical career are divided into two classes, those who intend to graduate as Doctors of Medicine, or as Masters in Surgery, and those who aim at becoming licentiates or members, of one or more of the three corporations.

The courses of Anatomy, of General Anatomy and Physiology, and of Chemistry, occupy the pupil's lecture hours during the first winter session of six months, and the time taken up by attendance on these lectures is exactly twelve hours in each week, or, on an average, two hours daily. Practical anatomy, that is to say learning the bones, and dissecting the various parts of the human body under the superintendence of the Demonstrators, occupies three hours daily, and, in addition to these exercises, it is our habit to require students during their first winter to attend the surgical practice of the Hospital for one or for two hours daily, not for the purpose of severe study, but with the view of rendering them familiar with the system of work in the wards, in the Out-Patient Department, and at the Post Mortem Examinations; and for the purpose of cultivating a general acquaintance with surgical nomenclature, and with the appearances presented by accidents and diseases. During the first winter session the daily average work of seven hours is thus apportioned ; two hours for attendance on Lectures, and five hours for Practical Anatomy and Hospital Practice.

During the summer Botany, Materia Medica, and Practical Chemistry involve an average daily attendance of one hour and three-quarters, and, as these Lectures are each day concluded by noon-time, a more close attendance on the Practice of Surgery is required than during the first winter session, and the students have to commence their studies in the Medical Wards and Medical Out-Patient Department. The whole of each day, with the deduction of one hour and three-quarters, is thus given up to Hospital Practice during the first summer session.

During the second winter, Lectures on Anatomy, General Anatomy and Physiology, Medicine, and Surgery, occupy on an average three hours daily; three hours are still required for Practical Anatomy, being the time during which, as during the first session, the Demonstrators attend to direct and instruct. One or two hours are each day reserved for watching the practice of the Hospital in its various branches; not more, for the student towards the close of this session is preparing for his Primary (Scientific) Examinations.

The second summer is occupied by Lectures on Medical Jurisprudence and Midwifery, necessitating an average attendance of about one hour and a quarter daily, and now, again, the remainder of each day is free for practical work in the Hospital.

With the exception of one hour required for the Lectures on Medicine and Surgery, each day, during the third winter session, is occupied in observing Hospital Practice, and during this winter, or during the previous summer, the student is expected to have acted as Clinical Clerk, and as Dresser, and to have attended a certain number of labor cases. His practical work includes also an attendance on the Clinical Lectures of the Physicians and Surgeons.

A fourth year, either at the beginning or at the close of the student's career, is entirely set apart for practical work, and, amongst other things, for the study of Practical Pharmacy.

Such is the routine of work followed, in our school for instance, in conformity with the present regulations of the examining bodies. The facts we may learn from it are these: the requisite attendance on Lectures averages even less than two hours daily (indeed, there are fewer Lectures now than ten or fifteen years ago), whilst the remainder of the working hours are available for Hospital Practice, for Practical Anatomy, and for the home study of the subjects which have been the business of the day. Instructed by these facts, we cannot say either that our pupils are over-lectured, or that practical work is not sufficiently provided for.

To give an idea of the substantial character of the work provided for Students in a London Hospital, I may state that there is provision each year in our Wards and Out-Patients'. Department, for one hundred and four Clinical Clerks, and for one hundred and twelve Dressers, each pupil remaining in office for three months at the least, in either department, and having under his charge for that time, whilst on duty in the Wards, the occupants of fifteen medical or of twenty surgical beds. I can well understand the difficulties which must have to be encountered when a hospital scantily provides for the number of pupils entered at a large school or university; rendering it necessary to have recourse to new or to extended courses of Lectures to occupy the students' time, and to mask the lack of that practical work, the materials for which are not available. Hence the regrets of some practical physicians and surgeons, who recognise the inefficiency of the theatre as the substitute for the wards. Fortunately, these difficulties have no existence in the London schools.

Mr. Syme is of opinion that, by the present system of teaching, an increased load is thrown upon the memory of students; that, no time being left for observation or reflection, the education for our profession has become an effort of memory rather than a process of mental training, and he contrasts the range of subjects taught at the present time with that of a past age. The time actually taken up by Lectures (two hours daily) is so inconsiderable, that this transformation—supposing it to be in progress, which I do not for one moment allow—cannot be referred to the over-lecturing of students in point of time. Nor can the tax on the memory, or the defective mental training which is supposed to result from it, be attributed either to the quality or the quantity of the work they are now required to master for the Pass, excluding, that is to say, Competitive and Honor Examinations.

The quality of Lectures and of scientific work has no doubt vastly improved of late years. This improvement in quality, however, if the teaching be properly handled, tends to lighten the load on the memory rather than to increase its weight; for the facts now taught do but rationally explain, and, by thus explaining, simplify the subjects of which they treat. Surely it must be far more easy to recollect the actions of various muscles, as in the case of those concerned in respiration, now that an intelligible account is given of the why and wherefore of their action, than when the student had to follow the lengthy explanations, *de spiritu ducendi officio*, for example, of such a writer as Sprengel. It is less difficult to understand the closure of a wounded artery and the formation of an internal coagulum, now that we teach with accuracy the structure, if I may be permitted the expression, of the blood, and of the arterial walls; and as for the current doctrine of inflammation and of the process of repair, it seems to me, as a matter for mere learning, that its study is indeed easy when contrasted with the difficulties to be overcome in times comparatively recent, when the exercise of great faith was needed to enable students to master the explanations which theory and fancy then dictated.

Nor do Chemistry and Botany offer greater difficulties to the student now than formerly, provided always the teacher has in mind to teach that which will be of practical use to the pupil, and the examiners remember (as I believe they invariably do) that Medicine, neither Chemistry nor yet Botany, is to be the candidate's future profession. Nor again is Human Anatomy in its teaching much altered from what it was; the same structures have the same relations now as when Hunter, Cooper, and Abernethy introduced, or simplified, great surgical operations. Theirs is the anatomical knowledge still required by the student who desires to qualify himself for the practice of surgery.

And if we now teach a more precise account of certain structures than in times past, it is not in the quantity to be learnt that the supposed embarrassment of students can be held to lie. Bichat, for example, wrote at great length of cellular and other systems, and published over seventy pages on the absorbents. Boyer occupies forty pages in descanting *des voies urinaires.* Blumenbach treats in detail of respiration, of animal heat, and of the functions of the skin and of other parts of the body, and Sprengel of the same, even at greater length. A physiological course is at present brief when contrasted with one of times gone by, when, for instance, the mere syllabus alone of Vicq d'Azyr's *Plan d'un cours d'Anatomie et de Physiologie*, filled one hundred and twenty-four closely printed pages. Students formerly had all this to learn, those, that is to say, who pretended to learn anything of the science and art of their profession; and to master too in most instances without the advantage of explanatory oral discourses. Indeed, so long ago as 1754, Haller's 'Handbook of Physiology,' originally prepared for the use of the University of Göttingen, was translated into English, forming two goodly volumes of nearly one thousand pages, so great even then was the quantity of Physiology required by the students of medicine. Here is a sample of what in those days had to be learnt, respecting for instance the liver structure: 'The interior fabric of the liver being more minute, is proportionably more obscure. The ultimate small branches of the portal vein, cava, and hepatic artery are united by cellular substance into a sort of mulberry-like bunches, of an hexagonal shape, in the smaller parts of which there are mutual anastomoses betwixt the portal branches and hepatic artery, with the roots of the vena cava on one side, and of the pori biliarii on the other side; which last demonstrate their inosculations by anatomical injections.' Here follow several pages on the minute structure, and on the functions of the organ, and then I come upon the following passage. 'The fabric of the ductus hepaticus is made up by a strong nervous membrane, like that of the intestines, over which is spread an external and internal cellular membrane, and is internally lined with a loose villous tunic, elegantly reticulated, but asperated with many small pores and sinuses, and continued with that of the intestine itself.' These old descriptions are quite as difficult to remember as those now given of the same parts in any Handbook of General Anatomy and Physiology. But now these and a mass of other matters are displaced by modern progress. In most instances, modern discoveries, especially the facts brought to light by microscopic research, have simplified and made easy many a subject which when taught as in times past was often as unintelligible as it was frequently incorrect. And as with anatomy, so with medicine, so with surgery.

Contrasted with the work required any time during the last fifty years, it is evident that the curriculum of scientific study at present laid down for candidates for the Pass Examinations by our English corporations, can neither overburden the memories of the pupils, nor interfere with their mental training, nor deprive them of time for reflection and reading. Certainly not by the superior quality of the matter taught, the chief boast of which is its simplicity; certainly not by the quantity of material forced into any given number of Lectures, for the subjects are treated of at less length now than formerly. And, apropos of quantity, it is doubtless a taking statement to make, in this practical age, as made by Mr. Syme, that a list of five hundred or more fevers has been placed in the hands of the pupils of any medical class; but, of course, we all know, that the names thus paraded need never be learnt by students, nor indeed need they trouble themselves about them, any more than about the five hundred names of cutaneous disorders to be found in any text-book on diseases of the skin.

Since it is generally agreed that the scientific subjects now taught in the schools should somehow form parts of Medical Education, I do not see how they could be arranged more conveniently than at present, for giving plenty of time for the study of practical anatomy and hospital practice, or how students could be better aided in their studies than by the present system of lectures and of demonstrations. As to the conduct of courses by individual teachers, I have no experience of errors of judgment as to the subject-matter of their discourses; such Lectures as I have the advantage of being familiar with have struck me as being exactly adapted to the requirements of students, and to the intentions of the examining bodies.

Lectures, indeed, are of great use in keeping students to their work. They give a definite occupation for certain hours of each day, and between the Lectures there is left ample time for the pursuit of practical studies. Certainly nothing could be more ill-directed than the attempts which have been recently made to bring them into discredit. If the present mode of teaching is so much to be found fault with as to need alteration, it is incumbent upon its detractors to give us the system which they would advocate in its stead, so that we may have an opportunity for comparison of the two. A new curriculum must not be hurriedly introduced, but must be submitted to careful scrutiny, so that, if certain Lectures are to be done away with, we may clearly understand what possible aids to instruction we are to approve of in their stead, and how, better than at present, we are to direct the student in his studies, and ensure his attendance in the school and in the wards.

It has yet to be proved, if fewer Lectures are given, that the student will devote more time to the practical work, for which an average of five hours is now daily set apart, and for which five hours' work each day is, I consider, as much as can be required of him.

I must object to the statement, made over and over again, that students now-a-days attend but loosely to practical subjects. I never saw men more industrious and attentive to the hospital practice than those who have been of late years students at our school. Only this morning, more than four-fifths of our pupils were actually dissecting, or learning their anatomy from the parts dissected. One would feel ashamed, too, if one thought that any of the men had recourse to aids external to the school before entering for their examinations: for it is the duty of the teachers, and especially is it that of the Demonstrators and Tutors, to see that the students are fully prepared for them, and that their training is so arranged as to avoid all interference with Lectures and hospital practice. A great deal of mischief is, indeed, occasioned by ill-informed writers who endeavour to deny students credit for honest hard work, who state, incorrectly, that their work is loosely superintended, and who describe them as driven to the coach, to be prepared for their final examinations. As regards the students with whom I have associated, such statements are without foundation.

As to the existing Pass Examinations, I am pleased to say they have never been complained of in our school. At most they are four. Or rather they remain as formerly—two: one for the College of Surgeons, one for the College of Physicians, or Apothecaries' Hall; but each is divided into two parts,—the first having to be passed at the end of the second winter session, the second at the expiration of the fourth year of professional study. So far as my experience goes, I should say, that students have less difficulty in preparing for the two than for the one examination which they were formerly required to pass. As to these examinations being a source of constant disquietude, they are nothing of the sort. In the even pursuit of their studies the students prepare for them, pass them at the appointed times, and are anxious respecting them, only as every right-feeling man should be, even on the eve of achieving success. It is possible, however, that the examining bodies without much trouble might help us yet a little by accommodating one another in their several examinations. Not long ago, one of our pupils, who had distinguished himself for his knowledge of practical anatomy, went up for, and passed, his Primary (Scientific) Examination at the College of Surgeons. Six months later he went up for the corresponding Examination at the College of Physicians. We all know how soon anatomy slips from the memory. I was not surprised to learn that he had, to use a common expression, made a mess of it, although, as he said, he had looked up his anatomy, from books, not practically, before essaying the Examination. Now, what a pity it seems to be that, instead of passing in anatomy once and for all, he should have been compelled to get it up a second time, to the neglect, it is to be feared, of other studies with which he should have been occupied.

One word as to practical instruction. It must remain a matter of opinion to what extent Clinical Lectures should be trusted, and how far they are advantageous aids to learning Practical Medicine and Surgery. It is my opinion that, without by any means doing away with them altogether, they might be advantageously reduced in number. Ward teaching is the most readily learnt from, and the knowledge it imparts is the best retained. Each lesson is usually spoken well to the point, and with all the advantages of practical demonstration. An hour or two each week the less of Clinical Lectures, and an additional time appropriated to bedside instruction, would be attended with some gain to the pupils.

This I would add. At St. Bartholomew's we have always held back from the introduction of what may be termed extra courses of Lectures, and we may, I think, congratulate ourselves on having done so. Skin diseases, ear diseases, and so forth, can be learnt for all practical purposes without the aid of special instructors. Forming parts of the general practice of the hospital and school, they are taught with general medicine and surgery, their separation from which is a needless innovation, and involves, by the multiplicity of Lectures which it tends to introduce, great waste of that time which students should employ in more profitable work.

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